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Lee

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(54) **TAILGATE FOR VEHICLE AND METHOD FOR MANUFACTURING THE SAME**

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**

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B62D 35/00	(2006.01)
B29C 65/02	(2006.01)
B29C 65/48	(2006.01)
B60Q 1/30	(2006.01)
B29L 31/30	(2006.01)
B60J 1/18	(2006.01)

(52) **U.S. Cl.**

CPC ***B60J 5/107*** (2013.01); ***B29C 65/02*** (2013.01); ***B29C 65/48*** (2013.01); ***B60J 5/101*** (2013.01); ***B60Q 1/30*** (2013.01); ***B62D 35/007*** (2013.01); *B29L 2031/30* (2013.01); *B60J 1/18* (2013.01); *Y02T 10/82* (2013.01)

(58) **Field of Classification Search**

CPC B60J 5/10; B60J 5/102; B60J 5/107; B29C 65/48

USPC 296/50, 56

See application file for complete search history.

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(57) **ABSTRACT**

A tailgate for vehicle may include a body panel including an internal panel and a reinforcing panel mounted on at least a portion of the internal panel, a cover panel mounted on the body panel by an adhesive to cover a portion of the body panel and having a cover body integrally formed with a spoiler portion, and a lamp device mounted on the cover panel.

14 Claims, 9 Drawing Sheets

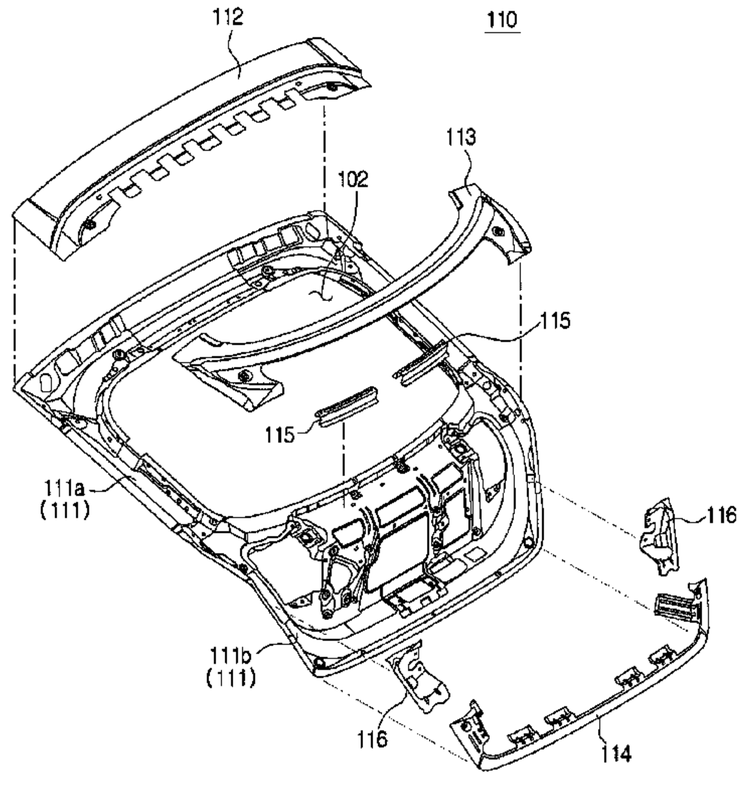


FIG. 1

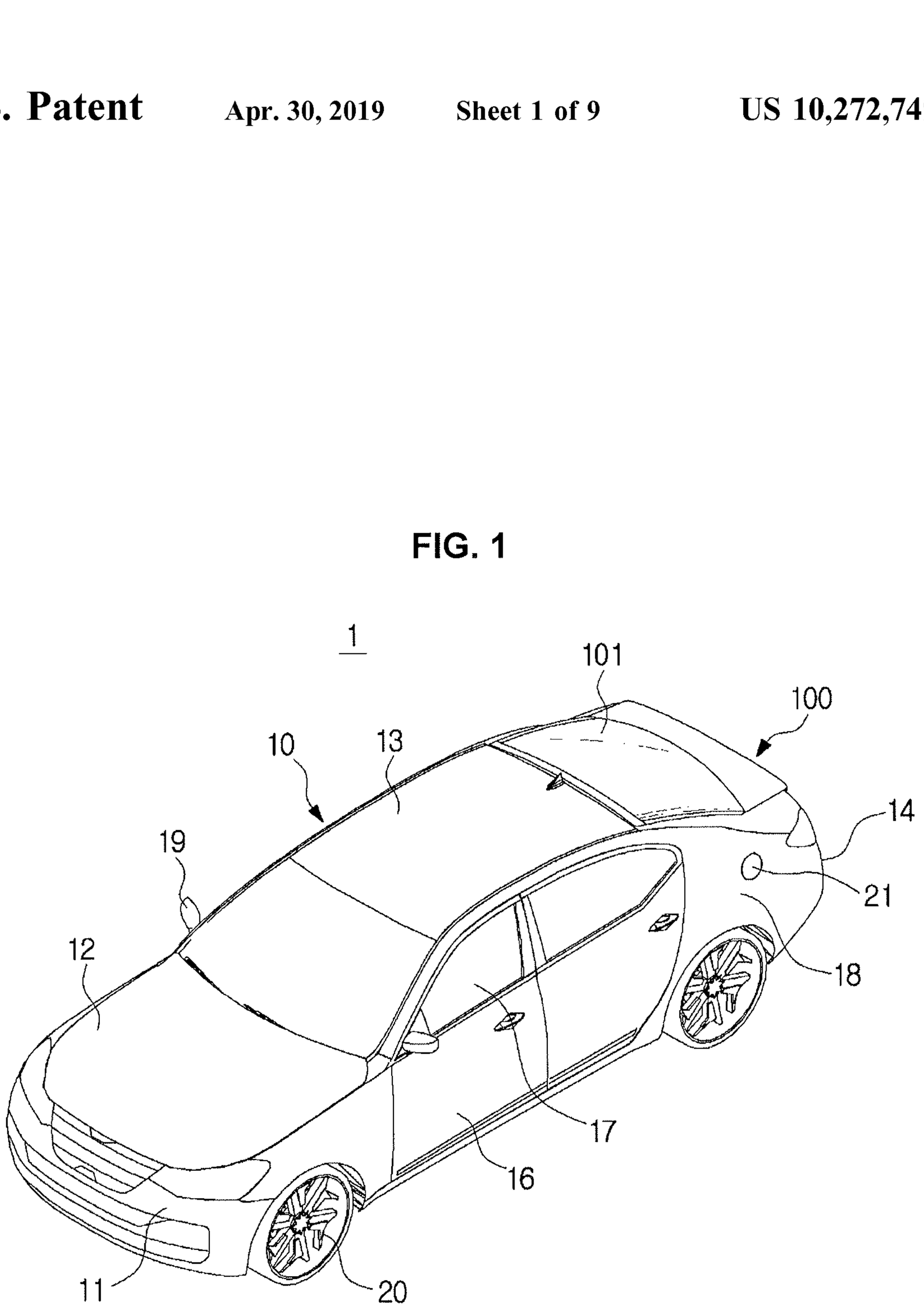


FIG. 2

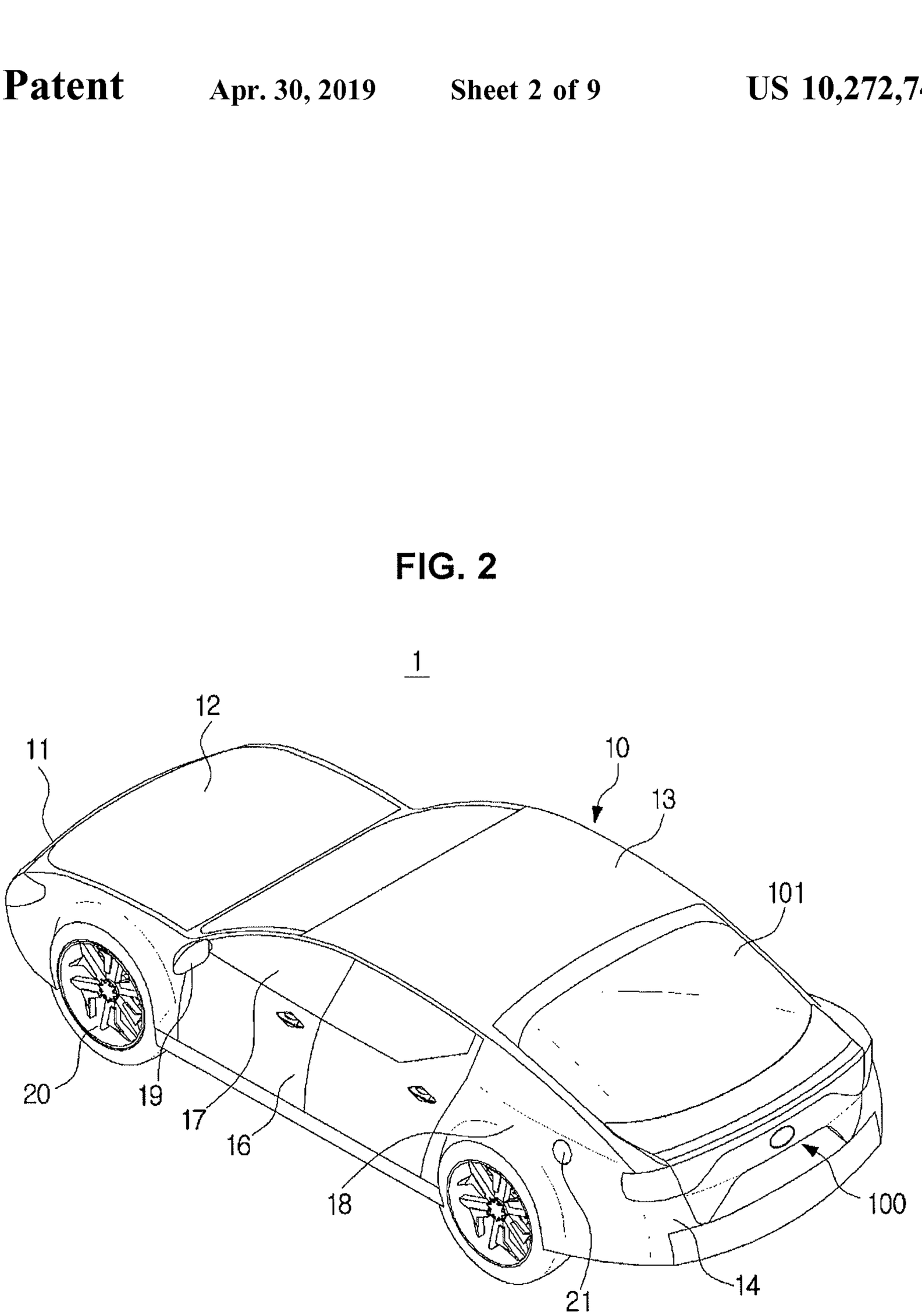


FIG. 3

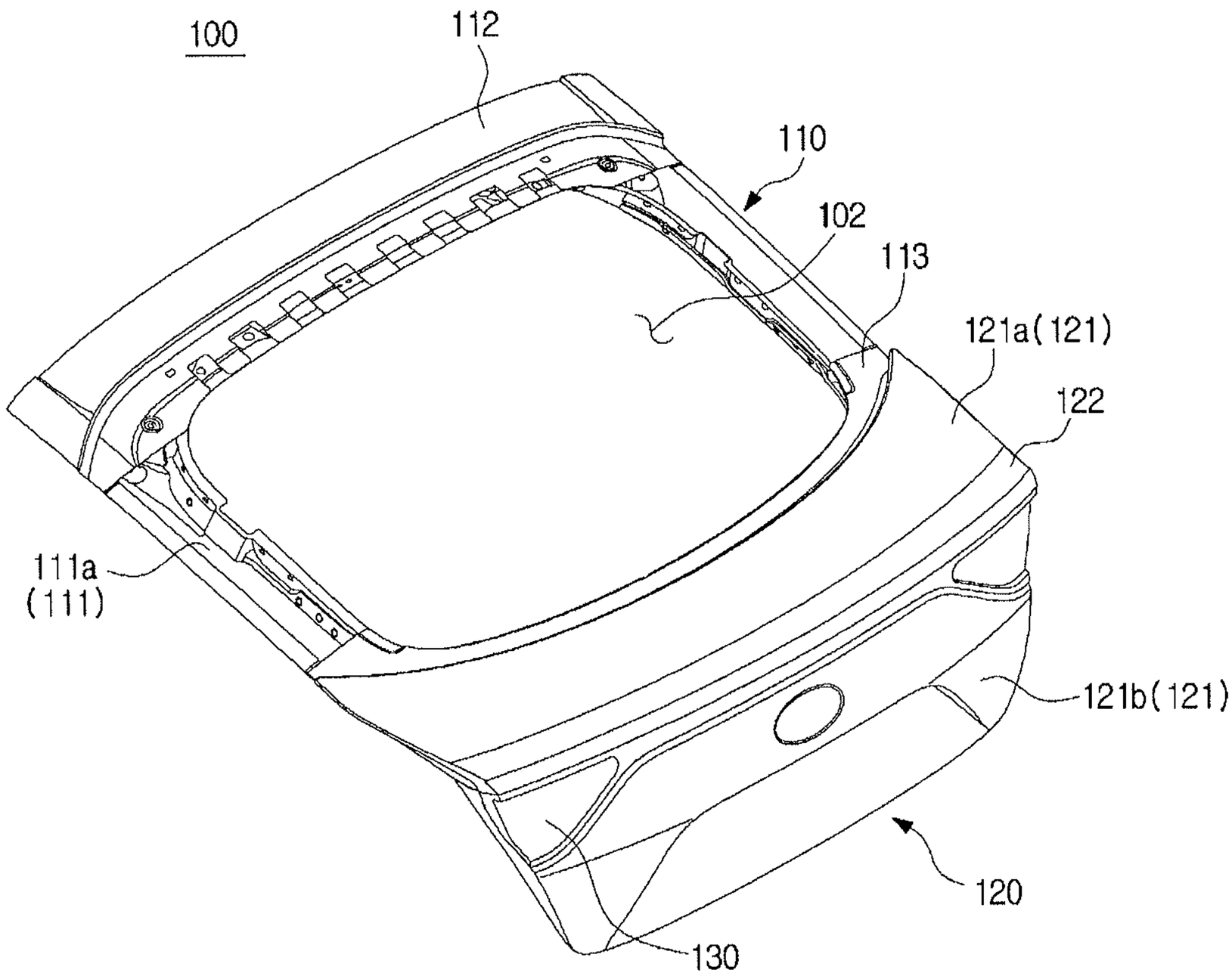


FIG. 4

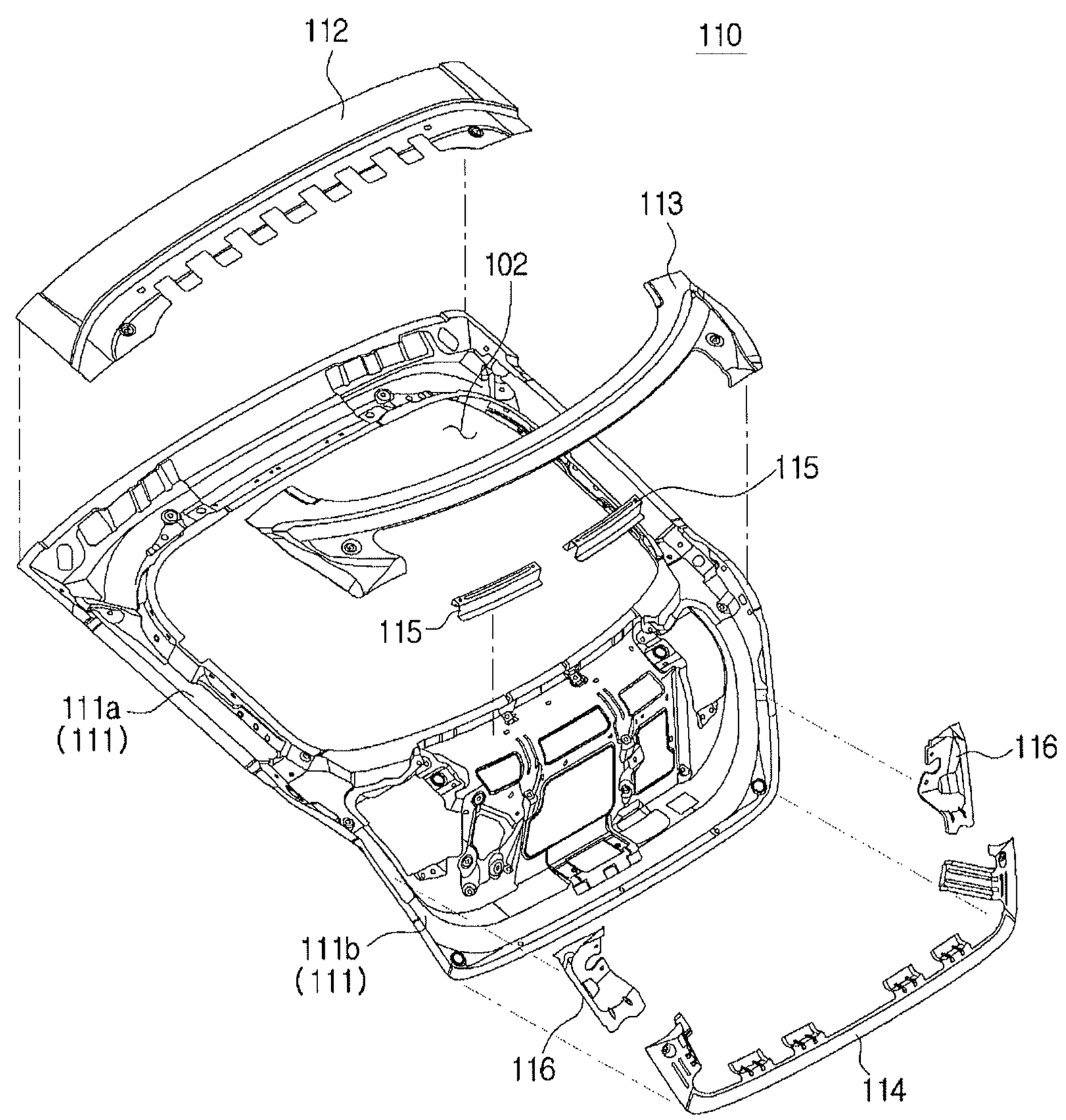


FIG. 5

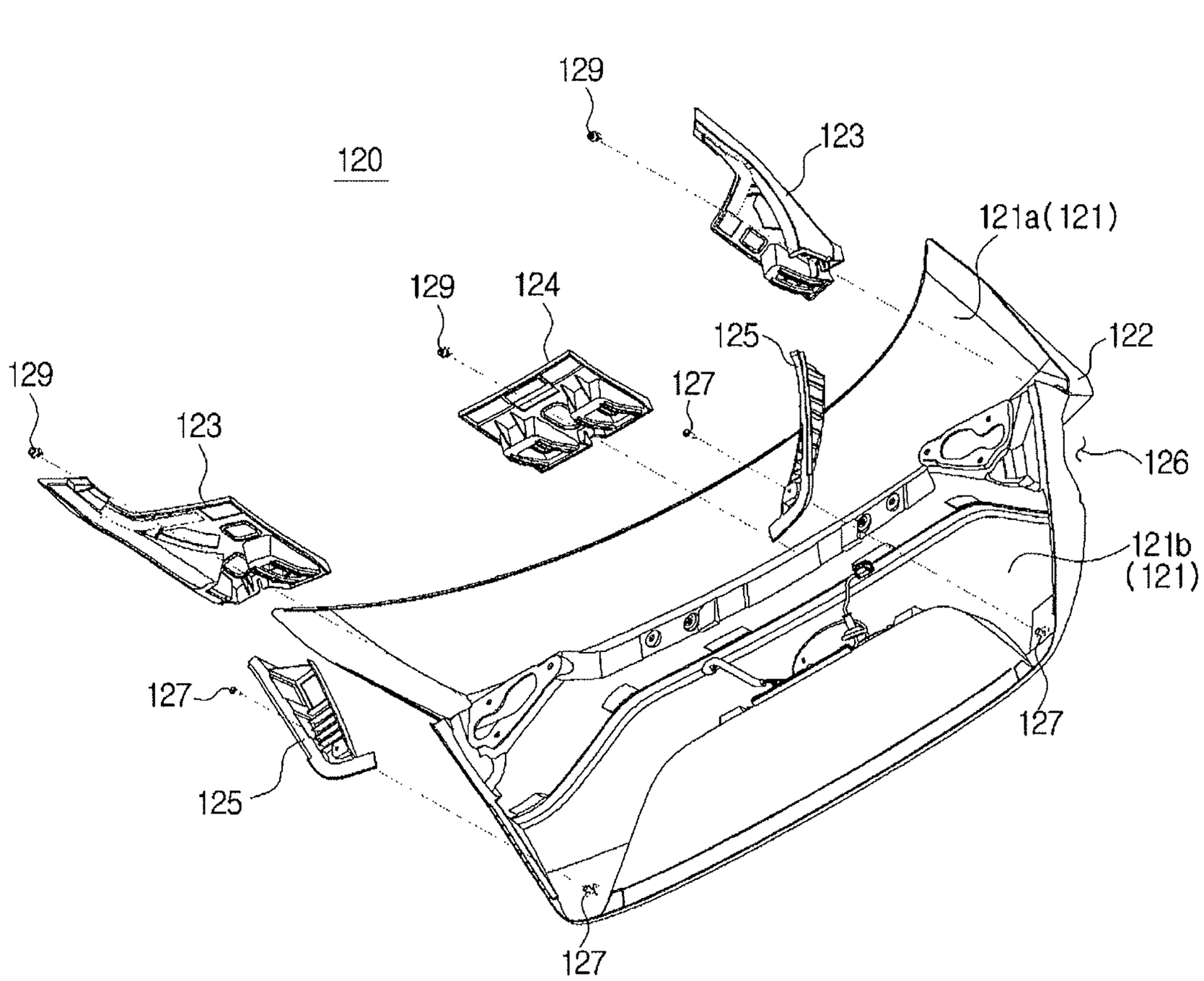

120
129
123
121a(121)
129
124
125
122
129
123
127
126
121b
(121)
127
125
127
127

FIG. 6

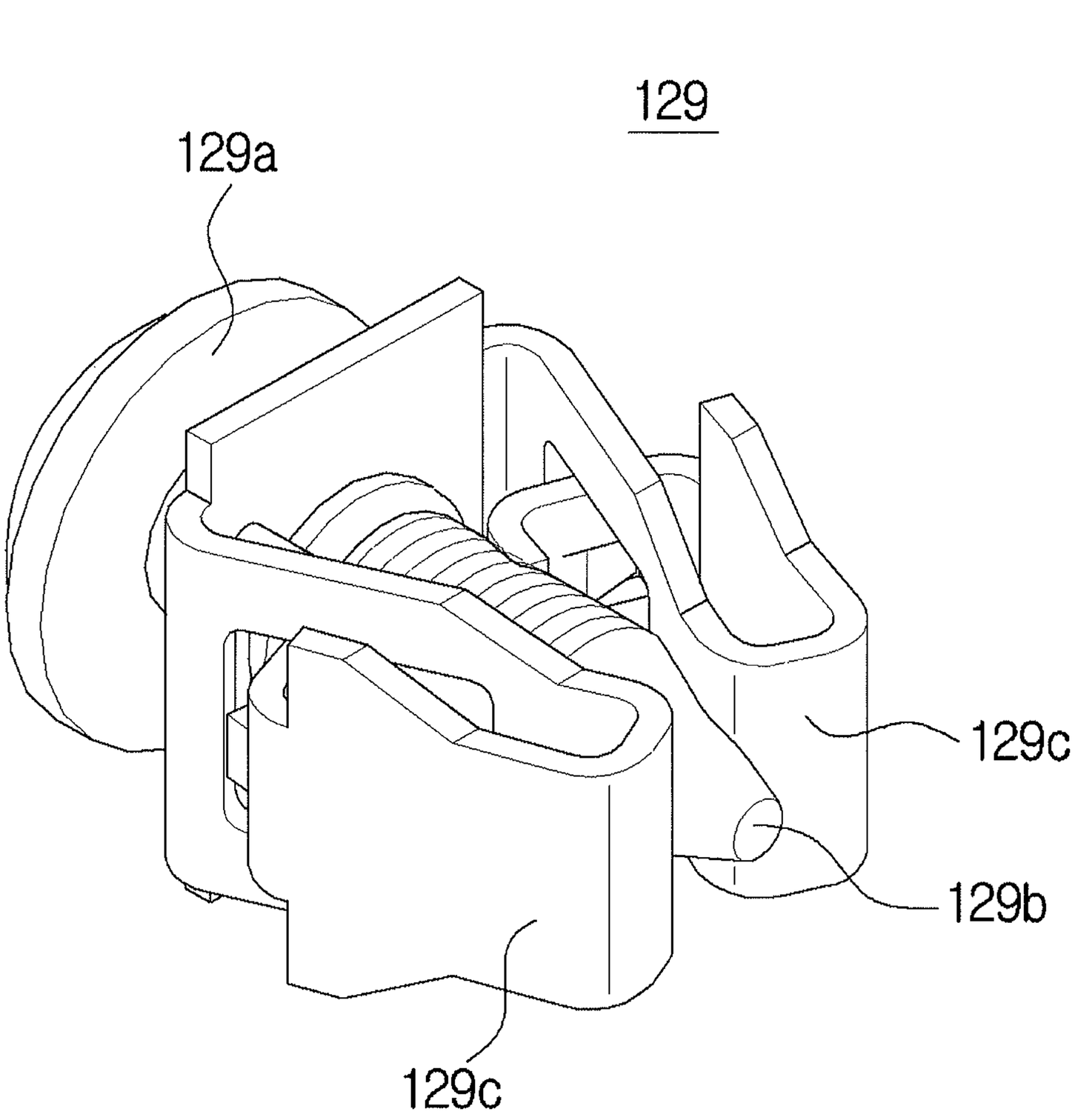


FIG. 7

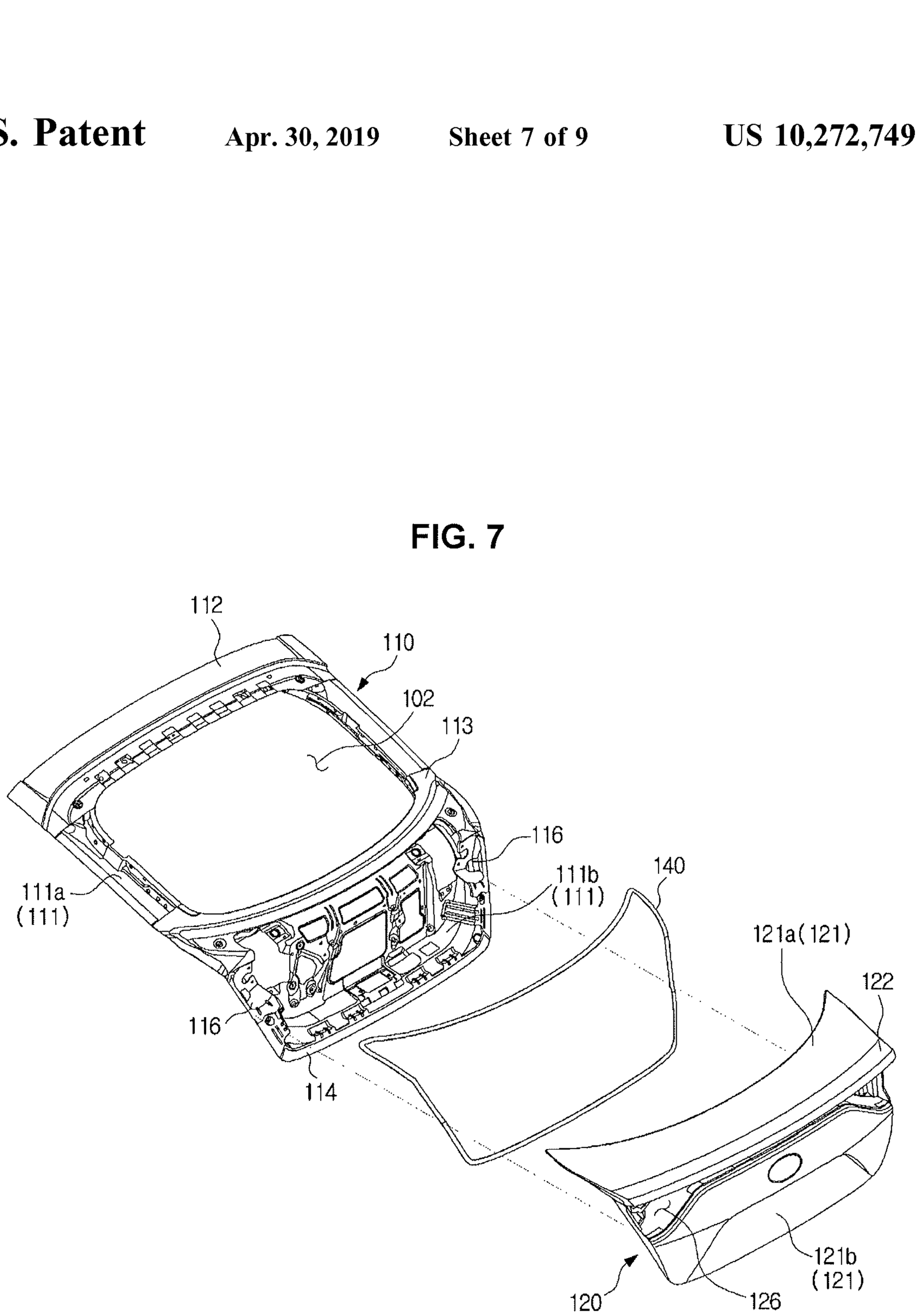

112
110
102
113
116
111a
(111)
111b
(111)
140
121a(121)
122
116
114
121b
(121)
120
126

FIG. 8

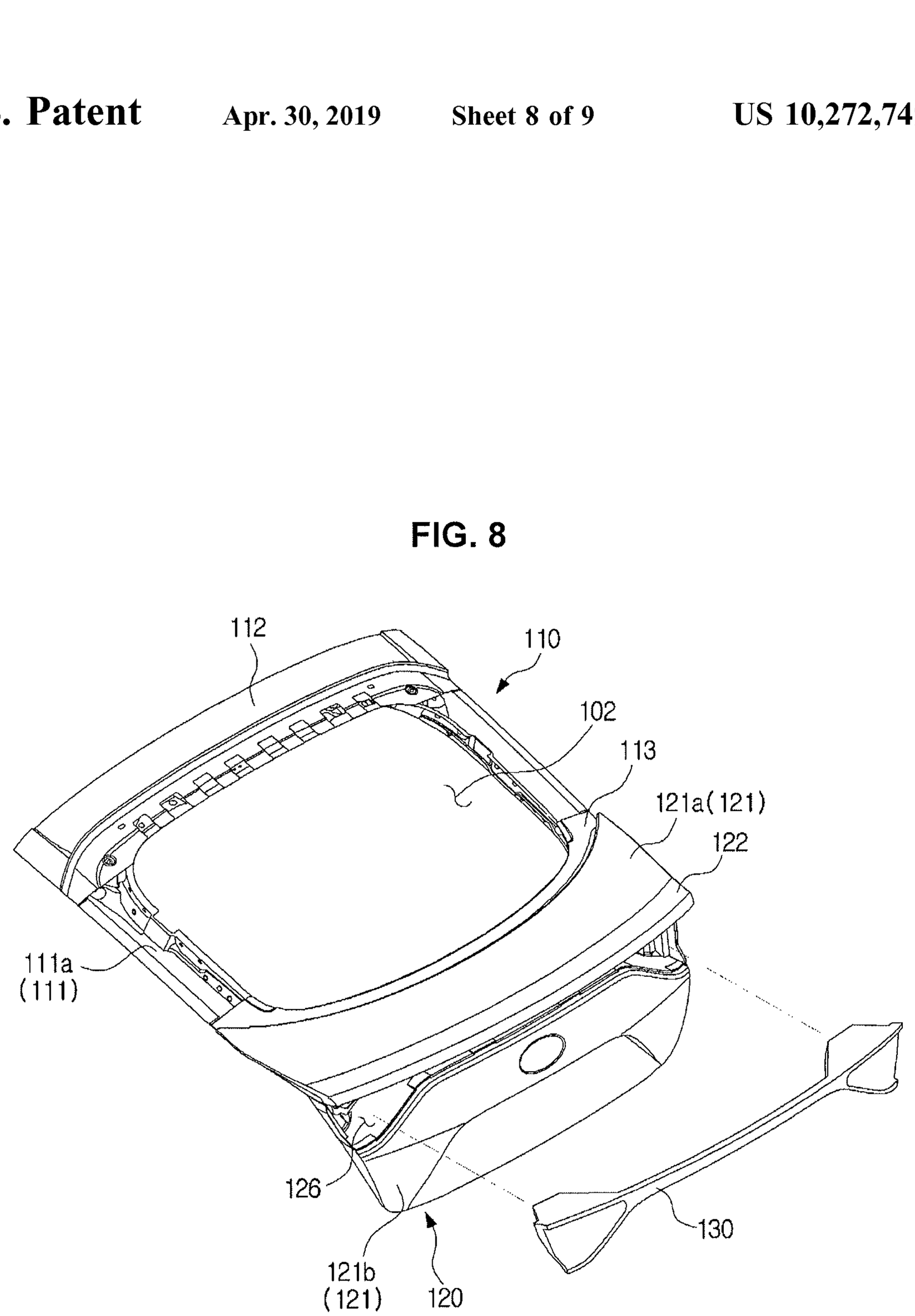
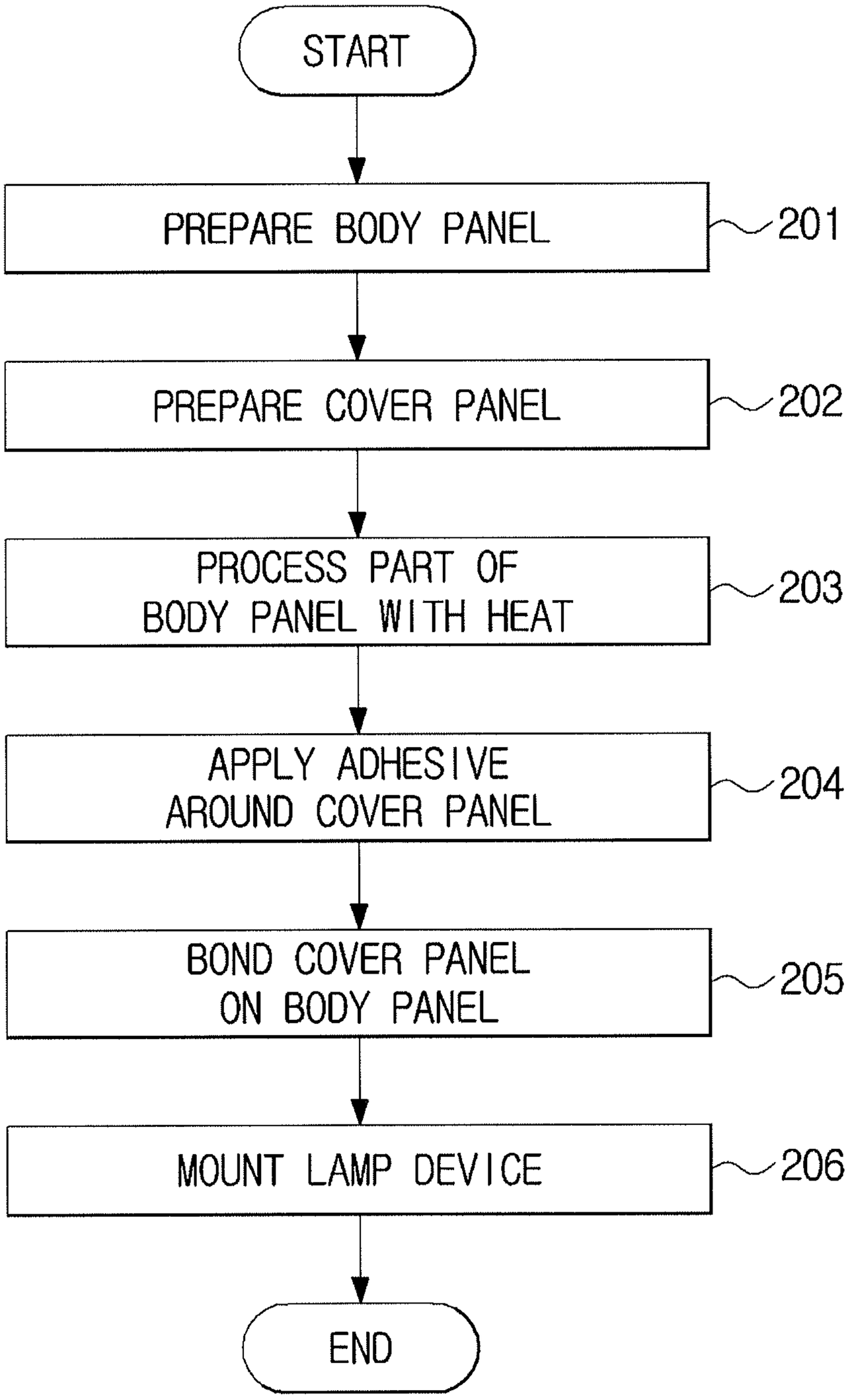


FIG. 9


START
PREPARE BODY PANEL
201
PREPARE COVER PANEL
202
PROCESS PART OF BODY PANEL WITH HEAT
203
APPLY ADHESIVE AROUND COVER PANEL
204
BOND COVER PANEL ON BODY PANEL
205
MOUNT LAMP DEVICE
206
END

TAILGATE FOR VEHICLE AND METHOD FOR MANUFACTURING THE SAME

CROSS-REFERENCE(S) TO RELATED APPLICATIONS

The present application claims priority to Korean Patent Application No. 10-2016-0164789, the entire contents of which are incorporated herein for all purposes by this reference.

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a tailgate for a vehicle and method for manufacturing the same with an improved structure.

Description of Related Art

In general, vehicles with large overall height, such as those of the hatchback type, sports utility vehicle (SUV) type, multi-purpose vehicle (MPV) type, or recreational vehicle (RV) type, etc., are equipped with a tailgate at the back to increase utilization of the interior compartment and facilitate luggage loading.

The tailgate may open and close the opening of the loading compartment configured to load items at the back of the vehicle. The tailgate may be pivotally disposed around a horizontal axis at the top of the back of the vehicle, and there may be a handle attached at the bottom of the tailgate to facilitate the closure of the tailgate.

The tailgate may include a spoiler to prevent eddy currents of air forming while the vehicle is moving. The spoiler may improve driving stability by creating a down force on the back of the vehicle while the vehicle is travelling at a high speed.

A conventional spoiler is combined with the back panel of the tailgate through volts and fasteners, which causes a leakage at the combined part.

The information disclosed in this Background of the Invention section is only for enhancement of understanding of the general background of the invention and should not be taken as an acknowledgement or any form of suggestion that this information forms the prior art already known to a person skilled in the art.

BRIEF SUMMARY

The present invention is directed to providing a tailgate for a vehicle and method for manufacturing the same to prevent leakage.

The present invention also provides a tailgate for a vehicle and method for manufacturing the same to embody an elegant design.

The present invention also provides a tailgate for a vehicle and method for manufacturing the same to save costs.

The present invention also provides a tailgate for a vehicle and method for manufacturing the same to increase robustness.

The present invention also provides a tailgate for a vehicle and method for manufacturing the same to reduce weight.

In accordance with an aspect of the present invention, a tailgate for a vehicle includes a body panel including an internal panel and a reinforcing panel mounted on at least one portion of the internal panel, a cover panel mounted on the body panel by an adhesive to cover a portion of the body panel and having a cover body integrally formed with a spoiler portion, and a lamp device mounted on the cover panel.

The cover panel may be formed to include at least one of polypropylene and talc.

The cover panel may include at least one reinforcing member disposed on a side of the cover panel facing the body panel.

The reinforcing member(s) may be mounted on the cover panel by at least one of a combining member, an adhesive or welding.

The reinforcing member(s) may include side reinforcing members disposed on both sides of the width of the cover panel, and a center reinforcing member disposed between the side reinforcing members.

The reinforcing member(s) may be formed to include talc.

The adhesive may be formed to include urethane.

The reinforcing panel may be formed to include Steel Plate Cold Commercial (SPCC).

The body panel may include a top panel mounted at the top end portion of the internal panel, a bottom panel mounted at the bottom end portion of the internal panel, a center panel mounted at the internal panel and disposed between the top and bottom panels, and a lamp panel mounted at the internal panel and disposed between the bottom and center panels of the internal panel.

The adhesive may be applied around the cover panel.

In accordance with an aspect of the present invention, a method for manufacturing a tailgate for a vehicle includes preparing a body panel having an internal panel, preparing a cover panel formed to include at least one of polypropylene and talc and having a cover body integrally formed with a spoiler portion, and bonding the cover panel on the body panel with an adhesive.

The method may further include heat-processing a section of the body panel where the cover panel is mounted before bonding the cover panel on the body panel.

The method may further include applying an adhesive around the cover panel before bonding the cover panel on the body panel.

The method may further include mounting a lamp device on the cover panel after bonding the cover panel to the body panel.

Preparing the cover panel may include having at least one reinforcing member mounted on a side of the cover panel facing the body panel.

The methods and apparatuses of the present invention have other features and advantages which will be apparent from or are set forth in more detail in the accompanying drawings, which are incorporated herein, and the following Detailed Description, which together server to explain certain principles of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** shows the exterior of a vehicle with a tailgate for a vehicle viewed from the front according to an exemplary embodiment of the present invention;

FIG. **2** shows the vehicle shown in FIG. **1** viewed from the back;

FIG. **3** shows a tailgate for the vehicle shown in FIG. **2**;

FIG. **4** is an exploded view of a body panel shown in FIG. **3**;

FIG. **5** is an exploded view of a cover panel shown in FIG. **3**;

FIG. **6** shows a combining member shown in FIG. **5**;

FIG. **7** shows combining the cover panel to the body panel shown in FIG. **3**;

FIG. **8** shows combining a lamp device to the cover panel shown in FIG. **3**; and

FIG. **9** is a flowchart illustrating a method for manufacturing the tailgate for the vehicle shown in FIG. **3**.

It should be understood that the appended drawings are not necessarily to scale, presenting a somewhat simplified representation of various features illustrative of the basic principles of the invention. The specific design features of the present invention as disclosed herein, including, for example, specific dimensions, orientations, locations, and shapes will be determined in part by the particular intended application and use environment.

In the figures, reference numbers refer to the same or equivalents parts of the present invention throughout the several figures of the drawing.

DETAILED DESCRIPTION

Reference will now be made in detail to various embodiments of the present invention(s), examples of which are illustrated in the accompanying drawings and described below. While the invention(s) will be described in conjunction with exemplary embodiments, it will be understood that the present description is not intended to limit the invention(s) to those exemplary embodiments. On the contrary, the invention(s) is/are intended to cover not only the exemplary embodiments, but also various alternatives, modifications, equivalents and other embodiments, which may be included within the spirit and scope of the invention as defined by the appended claims.

The terminology used herein is for the purpose of describing particular embodiments only and is not intended to limit the present invention. It is to be understood that the singular forms "a," "an," and "the" include plural references unless the context clearly dictates otherwise. It will be further understood that the terms "comprises" and or "comprising," when used in the present specification, specify the presence of stated features, integers, steps, operations, elements, and or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and or groups thereof.

The terms including ordinal numbers such as "first" and "second" may be used to explain various components, but the components are not limited by the terms. The terms are only for the purpose of distinguishing a component from another. Thus, a first element, component, region, layer or section discussed below could be termed a second element, component, region, layer or section without departing from the teachings of the present invention. Descriptions shall be understood to include any and all combinations of one or more of the associated listed items when the items are described by using the conjunctive term "~ and/or ~," or the like.

A vehicle herein used refers to a machine that transports people, animals, and or cargo from a starting place to a destination. The vehicle may include cars that run on the road or track, ships that travel in an ocean or river, and airplanes that fly in the air with aeromechanics.

The cars that run on the road or track may travel in a desired direction by rotation of at least one wheel, and may include two-wheeled, three-wheeled, or four-wheeled automobiles, cars for construction and machinery, two-wheeled vehicles, motorbikes, or trains that run on a track.

FIG. **1** shows the exterior of vehicle **1** with a tailgate **100** for the vehicle viewed from the front according to an exemplary embodiment of the present invention. FIG. **2** shows the vehicle **1** shown in FIG. **1** viewed from the back. Although FIG. **1** and FIG. **2** show the tailgate **100** for vehicle **1** applied to the hatchback type, the tailgate **100** for a vehicle according to an exemplary embodiment of the present invention is not limited thereto, but may be applied to the sports utility vehicle (SUV) type, multi-purpose vehicle (MPV) type, or recreational vehicle (RV) type vehicles. The tailgate **100** for vehicle **1** may also be referred to simply as the tailgate **100**.

Referring to FIG. **1** and FIG. **2**, the vehicle **1** may include a body with the exterior **10** and the interior, and a chassis on which the remaining parts other than the body, i.e., mechanical devices required for driving are disposed.

The exterior **10** of the body may include a front panel **11**, a hood **12**, a roof panel **13**, a rear panel **14**, a tailgate **100**, front, back, left and right doors **16**, and window glasses **17** disposed in the front, back, left and right doors **116**. The vehicle may further include side panels **18**. A rear glass **101** may be disposed on the tailgate **100**. The tailgate **100** will now be described in detail.

The vehicle **1** may include a fuel door **21** disposed in a section of the side panel **18**. The fuel door **21** may be configured to open or close a fuel pipe (not shown) extending from a fuel tank (not shown) placed inside the vehicle **1** for storing fuel to the outside of the vehicle **1**.

The exterior **10** of the body may include side mirrors **19** that help the driver see areas behind the vehicle **1**.

The chassis of the vehicle **1** may include a power generating system (not shown), a power transferring system (not shown), a traveling mechanism (not shown), a steering system (not shown), a braking system (not shown), a suspension system (not shown), a transmission system (not shown), a fuel system (not shown), and the front, back, left, and right wheels **20**.

The vehicle **1** may further include a safety system (not shown) for securing the safety of the driver and passengers. The safety system of the vehicle **1** may include at least one of an airbag control system (not shown) for the purpose of the safety of driver and passengers in case of car crashes, and an Electronic Stability Control (ESC) system (not shown) for stabilizing the vehicle's position while the vehicle **1** is accelerating or cornering.

Moreover, the vehicle **1** may include at least one proximity sensor (not shown) for detecting obstacles or other cars behind or to the side of the vehicle **1**, a rain sensor (not shown) for detecting rainfall and precipitation, temperature sensors (not shown) for detecting internal and external temperatures, wheel speed sensors (not shown) for detecting the speed of the front, rear, left and right wheels, an acceleration sensor (not shown) for detecting acceleration, a yaw rate sensor (not shown) for detecting yaw rates, and a gyro sensor (not shown) for detecting the position of the vehicle.

The vehicle **1** may include an electronic control unit (ECU) (not shown) for controlling operation of the power generating system, power transferring system, traveling mechanism, steering system, braking system, suspension system, transmission system, fuel system, and various safety systems and sensors.

Furthermore, the vehicle **1** may include at least one of an air conditioning (AC) and ventilation system (not shown), a lighting system (not shown), a navigation system (not shown), seat heaters (i.e., heated wires (not shown)), a hands-free system (not shown), a Global Positioning System (GPS) system (not shown), an audio system (not shown), a Bluetooth system (not shown), a rear camera (not shown), a

charging system (not shown) for an external terminal, and an E-Z pass (hi-pass in Korea) system (not shown), which are disposed for convenience of the driver.

In addition, the vehicle **1** may include at least one of a sunroof open and close system (not shown) for automatically opening or closing the sunroof, a door open and close system (not shown) for automatically opening or closing the front, back, left and right doors **16**, and a window open and close system (not shown) for automatically opening or closing the windows.

The vehicle **1** may further include an engine start button (not shown) to provide a command to operate a start motor (not shown). Specifically, the start motor may be activated when the start button is pressed, and the activation of the start motor may cause the power generating system, i.e., engine (not shown) to be operated.

The vehicle **1** may further include a battery (not shown) electrically connected to at least one of the navigation system, audio system, indoor lighting system (not shown), and start motor, configured for supplying power thereto. The battery may be charged using the dynamic power of the internal generator (not shown) or the engine while the vehicle is driven.

Furthermore, the vehicle **1** may include a roof rack (not shown) disposed on the top of the roof panel **13** to load the luggage. The roof rack may extend along the front to back direction or left to right direction on the top of the roof panel **13**. The roof rack may be disposed on either side across the width of the roof panel **13** of the vehicle **1**, or on the front and or back across the length of the vehicle **1**.

FIG. **3** shows the tailgate **100** for the vehicle shown in FIG. **2**. FIG. **4** is an exploded view of a body panel **110** shown in FIG. **3**. FIG. **5** is an exploded view of a cover panel **120** shown in FIG. **3**. FIG. **6** shows a combining member **129** shown in FIG. **5**. FIG. **7** shows combining the cover panel **120** to the body panel **110** shown in FIG. **3**. FIG. **8** shows combining a lamp device **130** to the cover panel **120** shown in FIG. **3**.

Referring to FIG. **3**, the tailgate **100** for a vehicle in accordance with an exemplary embodiment of the present invention may be disposed at the back of the vehicle **1**. Specifically, the tailgate **100** for a vehicle may be pivotally combined at the back of the roof panel **13**. The tailgate **100** may include a body panel **110**, a cover panel **120**, and a lamp device **130**.

The body panel **110** may include an internal panel **111** provided as a base of the tailgate **100**, and a plurality of panels **112**, **113**, **114**, **115**, and **116** on which a section of the outer side of the internal panel **111** is mounted.

Referring to FIG. **4**, the internal panel **111** may include a first part **111***a* forming the opening **102** for the rear glass **101** to be mounted therein, and a second part **111***b* forming the rear side of the vehicle **1**. The second part **111***b* may bend and extend almost downward from the first part **111***a*. The internal panel **111** may be formed to include steel to secure robustness of the tailgate **100**.

The top panel **112** may be mounted at the top end portion of the first part **111***a* of the internal panel **111**. The top panel **112** may cover a section of the top end portion of the outer side of the internal panel **111**. The top panel **112** may be formed to include steel to secure robustness of the tailgate **100**.

The center panel **113** may be mounted in a section where the first and second parts **111***a* and **111***b* join together. The center panel **113** may be placed between the top panel **112** and the bottom panel **114** as will be described below. The center panel **113** may cover a section of almost the center section of the outer side of the internal panel **111**. The center panel **113** may be formed to include steel to secure robustness of the tailgate **100**.

The rear glass **101** of the vehicle **1** may be fixed in the internal panel **111** while having the top end portion safely disposed in the top panel **112** and the bottom end portion safely disposed in the center panel **113**.

The bottom panel **114** may be mounted at the bottom end portion of the second part **111***b* of the internal panel **111**. The bottom panel **114** may cover a section of the bottom end portion of the outer side of the internal panel **111**. The bottom panel **114** may be formed to include steel to secure robustness of the tailgate **100**.

Reinforcing panels **115** may be mounted in the section where the first and second parts **111***a* and **111***b* join together. The reinforcing panel **115** may be mounted in a bending section of the internal panel **111**. The reinforcing panel **115** may be disposed in the bottom of the center panel **113** for supporting the center panel **113**. Accordingly, the tailgate **100** in accordance with an exemplary embodiment of the present invention may have more increased robustness. The reinforcing panel **115** may be formed to have SPCC.

Although FIG. **4** shows two reinforcing panels **115**, the number of the reinforcing panels **115** is not limited thereto, and there may be a single reinforcing panel extending long in the left to right direction or there may be three or more reinforcing panels.

A lamp panel **116** may be mounted at the top end portion of the second part **111***b* of the internal panel **111**. The lamp panel **116** may be disposed between the center panel **113** and the bottom panel **114**. The lamp panel **116** may be disposed to accommodate a lamp receiver **126** of the cover panel **120**, as will be described below. The lamp panel **116** may be disposed on both sides of the second part **111***b*.

The aforementioned top panel **112**, center panel **113**, bottom panel **114**, reinforcing panel **115**, and lamp panel **116** may be mounted on the internal panel **111** by at least one of welding, adhesion, and screwing.

Referring to FIG. **5**, the cover panel **120** may be mounted on the body panel **110** with an adhesive **140** and may include a cover body **121** having a spoiler portion **122**. The cover panel **120** may be arranged to cover the second part **111***b* and a section of the bottom end portion of the first part **111***a* of the body panel **110**.

The cover body **121** may include a first cover part **121***a* disposed to cover the bottom end portion of the first part **111***a* of the body panel **110**, and a second cover part **121***b* disposed to cover the second part **111***b* of the body panel **110**. The second cover part **121***b* may bend and extend almost downward from the first cover part **121***a* to correspond to the second part **111***b* of the body panel **110**.

The cover body **121** may be integrally formed with the spoiler portion **122**. The spoiler portion **122** may be disposed in a section where the first and second cover parts **121***a* and **121***b* join. The spoiler portion **122** may extend from where the cover body **121** bends. The cover body **121** may be injection-molded to have the spoiler portion **122**.

The cover body **121** may be formed to include polypropylene and or talc. the cover body **121** may be formed to include approximately 30% of talc. The cover body **121** may be formed of plastics. Accordingly, the tailgate **100** in accordance with an exemplary embodiment of the present invention may weigh less and cost less than in the conventional case where steel is used for the tailgate. In addition, the tailgate **100** in accordance with an exemplary embodi-

ment of the present invention may form the cover body **121** with plastics with better machinability, thereby embodying an elegant design.

The cover body **121** may include a lamp receiver **126** configured for the lamp device **130** to be received therein. The lamp receiver **126** may extend along the left and right direction. The lamp receiver **126** may have a shape corresponding to the shape of the lamp device **130**.

The cover panel **120** may include reinforcing members **123**, **124**, **125** mounted on the internal side toward the body panel **110**. Specifically, the cover panel **120** may include side reinforcing members **123** and **125** disposed on either end portions of the width of the cover panel **120**, and a center reinforcing member **124** disposed between the side reinforcing members **123** and **125**.

The side reinforcing members **123** and **125** may include first side reinforcing members **123** mounted on the left and right sides of the internal side of the cover body **121** to reinforce the left and right sides of the first cover part **121***a* of the cover body **121**, and second side reinforcing members **125** mounted on the left and right sides of the internal side of the cover body **121** to reinforce the left and right sides of the second cover part **121***b* of the cover body **121**. The first and second side reinforcing members **123** and **125** may support the cover body **121** from the inside of the cover body **121**, thereby preventing the cover body **121** from being twisted and or bent.

The side reinforcing members **123** and **125** may be formed to include polypropylene and or talc. Specifically, the side reinforcing members **123** and **125** may be formed to include approximately 30% of talc. The side reinforcing members **123** and **125** may be formed of plastics. Accordingly, the tailgate **100** in accordance with an exemplary embodiment of the present invention may weigh less and cost less than in the conventional case where steel is used for the tailgate.

The center reinforcing member **124** may be mounted in the center section of the internal side of the cover body **121** to reinforce the center section of the first cover part **121***a* of the cover body **121**. The center reinforcing member **124** may support the cover body **121** from the inside of the cover body **121**, thereby preventing the cover body **121** from being twisted and or bent.

The center reinforcing member **124** may be formed to include polypropylene and or talc. Specifically, the center reinforcing member **124** may be formed to include approximately 30% of talc. The center reinforcing member **124** may be formed of plastics. Accordingly, the tailgate **100** in accordance with an exemplary embodiment of the present invention may weigh less and cost less than in the conventional case where steel is used for the tailgate.

Although the embodiment describes that the reinforcing members **123**, **124**, **125** are disposed on the left and right sides of the internal side of the first cover part **121***a*, the center section, and the left and right sides of the second cover part **121***b*, the number and positions of the reinforcing members **123**, **124**, **125** are not limited thereto, but may be changed as needed.

The reinforcing members **123**, **124**, **125** may be mounted on the cover body **121** by one of the combining member **129**, adhesion, and welding.

referring to FIG. **6**, the combining member **129** which mounts reinforcing members **123**, **124**, **125** on the cover body **121** may include a head **129***a*, a body **129***b*, and a fixer **129***c*. The reinforcing members **123**, **124**, **125** may be mounted on the cover body **121** as the bodies **129***b* of the combining members **129** are combined into combining holes **127** and fixed by the fixers **129***c*.

Referring to FIG. **7**, the cover panel **120** may be mounted on the body panel **110** with an adhesive **140**. The adhesive **140** may be formed to include urethane. The adhesive **140** may be disposed around the cover panel **120**. As the cover panel **120** is mounted on the body panel **110** by the adhesive **140**, the tailgate **100** for a vehicle in accordance with the embodiment of the present invention may have improved ease of assembly and prevent leakage.

Referring to FIG. **8**, the lamp device **130** may be mounted on the cover panel **120**. the lamp device **130** may be mounted in the lamp receiver **126** disposed in the cover body **121**. The lamp device **130** may be a rear lamp of the vehicle **1**. The lamp device **130** may be mounted on the cover panel **120** by at least one of adhesion, welding, and screwing.

FIG. **9** is a flowchart illustrating a method for manufacturing the tailgate **100** for a vehicle shown in FIG. **3**.

Referring to FIG. **9**, a method for manufacturing the tailgate **100** for a vehicle in accordance with an exemplary embodiment of the present invention will now be described.

First, the body panel **110** is prepared, in step **201**. The step of preparing the body panel **110** may include having the top panel **112**, center panel **113**, bottom panel **114**, reinforcing panel **115**, and lamp panel **116** attached to the internal panel **111** by welding.

Subsequently, the cover panel **120** is prepared, in step **202**. The step of preparing the cover panel **120** may include having the side reinforcing members **123**, **125** and the center reinforcing member **124** mounted on the cover body **121** by the combining member **129** and the adhesive **140**. The cover body **121** may be integrally injection-molded to have the spoiler portion **122**.

Subsequently, a part of the body panel **110** to be mounted on the cover panel **120** may be processed with heat, in step **203**.

Then, the adhesive **140** may be applied on the cover panel **120**, in step **204**. In the present regard, the adhesive **140** may be applied around the cover body **121**.

The cover panel **120** may then be bonded to the body panel **110**, in step **205**. Since the body panel **110** has a section where the cover panel **120** is mounted processed with heat, the cover panel **120** may be thermally bonded to the body panel **110** with the adhesive **140**.

The lamp device **130** may then be mounted on the cover panel **120**, in step **206**. The lamp device **130** may be mounted in the lamp receiver **126** of the cover panel **120** by screwing.

With the above configuration, the tailgate **100** for a vehicle in accordance with the embodiments of the present invention has the cover panel **120** formed of plastics, thereby embodying an elegant design, reducing weight, and saving costs. Furthermore, since the cover panel **120** is mounted on the body panel **110** with the adhesive **140**, leakage may be prevented. In addition, robustness of the tailgate **100** may be improved by applying the plurality of reinforcing members **123**, **124**, **125**.

According to embodiments of the present invention, a tailgate and method for manufacturing the same integrates a spoiler and a back panel and attaches the integrated one to a main panel with an adhesive, thereby preventing leakage.

According to embodiments of the present invention, a tailgate and method for manufacturing the same integrates a spoiler and a back panel into one device with a synthetic resin, thereby embodying an elegant design.

According to embodiments of the present invention, a tailgate and method for manufacturing the same integrates a spoiler and a back panel into one device with a synthetic resin, thereby saving costs.

According to embodiments of the present invention, a tailgate and method for manufacturing the same may increase robustness with reinforcing members.

According to embodiments of the present invention, a tailgate and method for manufacturing the same integrates a spoiler and a back panel into one device with a synthetic resin, thereby reducing weight.

For convenience in explanation and accurate definition in the appended claims, the terms "upper", "lower", "inner", "outer", "up", "down", "upwards", "downwards", "front", "rear", "back", "inside", "outside", "inwardly", "outwardly", "interior", "exterior", "forwards" and "backwards" are used to describe features of the exemplary embodiments with reference to the positions of such features as displayed in the figures.

The foregoing descriptions of specific exemplary embodiments of the present invention have been presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention to the precise forms disclosed, and obviously many modifications and variations are possible in light of the above teachings. The exemplary embodiments were chosen and described in order to explain certain principles of the invention and their practical application, to thereby enable others skilled in the art to make and utilize various exemplary embodiments of the present invention, as well as various alternatives and modifications thereof. It is intended that the scope of the invention be defined by the Claims appended hereto and their equivalents.

What is claimed is:

1. A tailgate for a vehicle comprising:

a body panel including an internal panel and a reinforcing panel mounted on at least a portion of the internal panel;

a cover panel mounted on the body panel by an adhesive to cover a portion of the body panel and having a cover body integrally formed with a spoiler portion; and

a lamp device mounted on the cover panel,

wherein the body panel comprises:

a top panel mounted at a top end portion of the internal panel;

a bottom panel mounted at a bottom end portion of the internal panel;

a center panel mounted at the internal panel, and disposed between the top and bottom panels; and

a lamp panel mounted at the internal panel, and disposed between the bottom and center panels of the internal panel.

2. The tailgate for the vehicle of claim **1** comprising:

wherein the cover panel is configured to include of polypropylene and talc.

3. The tailgate for the vehicle of claim **1**, wherein the cover panel comprises at least one reinforcing member arranged on a side of the cover panel facing the body panel.

4. The tailgate for the vehicle of claim **3**, wherein the at least one reinforcing member is mounted on the cover panel by at least one of a combining member, an adhesive or welding.

5. The tailgate for the vehicle of claim **3**, wherein the at least one reinforcing member comprises:

side reinforcing members arranged on a first side and a second side having a width of the cover panel; and

a center reinforcing member positioned between the side reinforcing members.

6. The tailgate for the vehicle of claim **3**, wherein the at least one reinforcing member is formed to include talc.

7. The tailgate for the vehicle of claim **1**, wherein the adhesive is configured to include urethane.

8. The tailgate for the vehicle of claim **1**, wherein the reinforcing panel is configured to include Steel Plate Cold Commercial (SPCC).

9. The tailgate for the vehicle of claim **1**, wherein the adhesive is applied around the cover panel.

10. A method for manufacturing a tailgate for a vehicle, the method comprising:

preparing a body panel having an internal panel;

attaching a top panel, a center panel, a bottom panel, and a lamp panel to the internal panel;

preparing a cover panel formed to include both of polypropylene and talc and having a cover body integrally formed with a spoiler portion; and

bonding the cover panel on the body panel with an adhesive.

11. The method of claim **10**, further comprising:

heat-processing a part of the body panel where the cover panel is mounted, before bonding the cover panel on the body panel.

12. The method of claim **10**, further comprising: applying the adhesive around the cover panel before bonding the cover panel on the body panel.

13. The method of claim **10**, further comprising: having a lamp device mounted on the cover panel after bonding the cover panel on the body panel.

14. The method of claim **10**, wherein preparing the cover panel comprises having at least one reinforcing member mounted on a side of the cover panel facing the body panel.

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